

Curriculum Vitae

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About me

Dr. Mahesh J Kulkarni is a Chief Scientist and Chair, Biochemical Sciences Division at CSIR National Chemical Laboratory, Pune. He is instrumental in setting up a mass spectrometry and proteomics facility at NCL. He has guided more than 20 Ph.D. students to date and has published 118 articles in reputable journals, including Molecular Cellular Proteomics, Journal of Proteome Research, Proteomics, RSC Advances, Molecular Biosystems, Journal of Proteomics, Scientific Reports, Aging Cell, eLife, and BBA Molecular Basis of Disease. He has led several important projects as a Principal investigator. Dr. Kulkarni has made significant contributions to understanding protein glycation in diabetes through mass spectrometry and proteomics. He is an editorial member of reputable journals, including Clinical Proteomics and the Journal of Proteins and Proteomics. He was elected Fellow of the Maharashtra Academy of Sciences in 2016. He was awarded the Raman Research Fellowship to visit the University of Turku, Finland, in 2016.

Education Qualification

- PhD in Crop Physiology, University of Agricultural Sciences, Bangalore.
- MSc (Agri) in Crop Physiology, University of Agricultural Sciences, Bangalore.
- BSc (Agri), University of Agricultural Sciences, Bangalore.

Total Publications (120):

1. Shraddha Jogi S, Jagtap R, Subrahmanyam YV, Sharma M, Kulkarni M, Raghunathan A*. Engineering *Pichia pastoris* as a Heterologous Platform for Non-Ribosomal Peptide Biosynthesis of the β -Lactam Intermediate δ -(l - α -Aminoadipyl)- l -cysteinyl-d-valine (ACV). ACS Omega 2026, <https://doi.org/10.1021/acsomega.5c11638>
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7. Sheikh AB, Jathar SM, **Kulkarni MJ***. Characterization of S-homocysteinylation of human Insulin and its implications in diabetes. ***Protein J.* 2025 Oct;44(5):598-610**
8. Patil YR, Tiwari S, · Momin AA, Unnikrishnan AG, **Kulkarni MJ***. The Proteome Profile of Stress Test Assessed Cardiovascular Disease Risk-Prone Diabetic Subjects ***J Cardiovasc Transl Res.* 2025 Aug;18(4):960-969.**
9. Patil YR, Tiwari S, · Momin AA, Unnikrishnan AG, **Kulkarni MJ***. Autoantibodies against Nε-carboxymethyl lysine and methylglyoxal modified albumin are associated with cardiovascular risk in type 2 diabetes. ***International Journal of Diabetes in Developing Countries.* 2025 . doi.org/10.1007/s13410-024-01435-0**
10. Ambekar AS, Naredi N, Malakar D, Vashum Y, Misra P, **Kulkarni M***. Early and advanced glycation end product analysis from women with PCOS on metformin. *Reprod Biol.* 2025 Jan 14;25(1):100993. doi: 10.1016/j.repbio.2024.100993.
11. Rajesh S, Jathar S, Banarjee R, Sharma M, Palkar S, Shankar SS, **Kulkarni MJ***. A simple freeze-thaw based method for efficient purification of recombinant human proinsulin from inclusion bodies. ***Protein Expr Purif.* 2024 Dec 14:106645.** doi: 10.1016/j.pep.2024.106645. Epub ahead of print. PMID: 39681151.
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Patents

1. Kulkarni MJ, Banarjee R, Shivashankar S, Jathar SM, Rajesh S. A glycation resistant insulin polypeptide and a method of preparing the same thereof WO 2024194897A1
2. Kulkarni MJ, Banarjee R, Shivashankar S, Jathar SM, Rajesh S. Glycation resistant Insulin 202311020224 (22-03-2023.)
3. **Kulkarni MJ**. Rathore R, Sonwane BP, Santhakumari B 2019; Process for indentifying and quantifying glycated peptides of glucose sensitive residues of albumin to predict prediabetes. (Indian patent 2019-NF-0146 filed)
4. **Kulkarni MJ**, Jagadeeshaprasad MG, Batkulwar KB, Fernandes M. 2017 Method for indentifying and quantifying carboxyethyl valine modified haemoglobin (US20170074888 A1) (Granted)

5. **Kulkarni MJ**, An in vitro process for the quantification of carboxymethyl and carboxyethyl level of albumin in a sample. US patent US US10656165B2 (granted)
6. Edgerton MD, Gopalan B, Jung V, **Kulkarni MJ**, Linda Madson LL, Manchikanti P, Padmini S, Geetha V, Xu J, Zhou Y, Zhou L, Kimberly F, Duff Z, Methods of producing and using cold temperature tolerant plants, seeds, and crops. WO 2007112122 A8, CA 2647270 A1, US 20080092255 A1

Honors/Awards/Membership

- Editorial Board Member, Clinical Proteomics Journal
- Chellaram Diabetes Institute Special Recognition Award 2018
- Elected as a Fellow of the Maharashtra Academy of Sciences, 2016
- Elected as General Secretary, Proteomics Society, India, 2016.
- Raman Research Fellowship, to visit the University of Turku, Finland, 2016
- Editorial Member, Journal of Proteins and Proteomics, (Proteomics Society, India, Journal)
- NCL Research Foundation - Scientist of the Year 2010
- Elected as Young Associate of Maharashtra Academy of Sciences, 2007
- Life member of the Indian Society for Mass Spectrometry.

Administrative/Academic responsibilities:

Chair, Biochemical Sciences Division, CSIR-NCL (Oct 2023-Sept, 2026)

AcSIR Associate Dean (Biological Sciences), Jan,2021-Jan, 2024

AcSIR Coordinator, NCL, 2017-2020

Academy of Scientific and Innovative Research (AcSIR) was established in 2010 (by a resolution of GOI on July 17, 2010) and formalized by an Act of Parliament vide The Gazette of India (dated February 7, 2012) and notified on April 3, 2012, as an Institution of National Importance.([AcSIR - Academy of Scientific & Innovative Research | An Institution of National Importance, India](#)).

Number of PhD students guided: 20

Research Area: Mass spectrometry-based proteomics and metabolomics, Post-translational modifications, protein glycation in diabetes, Bioinformatics and Literature mining, Biotherapeutics

Citations: [Mahesh Kulkarni - Google Scholar](#) (3751 ; H-index 36)